



US005935850A

United States Patent [19]

Clark et al.

[11] **Patent Number:** **5,935,850**[45] **Date of Patent:** **Aug. 10, 1999**[54] **MODEL FOR CELL MIGRATION AND USE THEREOF**[75] Inventors: **Richard A. Clark**, Poquott; **Marcia Simon**, Stony Brook, both of N.Y.[73] Assignee: **The Research Foundation of State University of New York**, Albany, N.Y.[21] Appl. No.: **08/723,789**[22] Filed: **Sep. 30, 1996**[51] **Int. Cl.⁶** **C12N 5/00**[52] **U.S. Cl.** **435/325**; 435/4; 435/29; 435/395[58] **Field of Search** 435/325, 4, 29, 435/395[56] **References Cited****PUBLICATIONS**

Bell et al., Proc Natl Acad Sci USA 76(3):1274-1278 (Mar. 1979).

Brown et al., Am J Pathology 142(1):273-283 (Jan. 1993).

Ciano et al., Laboratory Investigation 54(1):62-70 (1986).

Knox et al., J Cellular Physiology 132:501-508 (1987).

Knox et al., J Cell Biology 102:2318-2323 (Jun. 1986).

Nicosia et al., Am J Pathology 145(5):1023-1029 (Nov. 1994).

Nicosia et al., Am J Pathology 128(1):78-90 (Jul. 1987).

Tomasek and Akiyama, Anatomical Record 234:153-160 (1992).

Schor et al., J Cell Science 109:2581-2590 (1996).

Middelkoop et al., Cell Tissue Res 280:447-453 (1995).

Karthä and Toback, J Clin Invest 90:288-292 (1992).

Bartold and Raben, J Periodont Res 31:205-216 (1996).

Primary Examiner—Leon B. Lankford, Jr.*Attorney, Agent, or Firm*—Braman & Rogalskyj, LLP[57] **ABSTRACT**

The invention provides the development of models for cell migration, including an in vitro model and an in vivo model. The in vitro model for cell migration comprises a first extracellular matrix containing a cell (the cell which will migrate) and a second extracellular matrix in physical contact with the first extracellular matrix. The first extracellular matrix simulates a first natural environment in which the cell naturally resides, and the second extracellular matrix simulates a second natural environment into which the cell naturally migrates from the first natural environment. The in vivo model according to the subject invention comprises an animal model having a naturally occurring first extracellular matrix containing a cell, and a second extracellular matrix in physical contact with the first extracellular matrix. The first and second extracellular matrices are generally as described above for the in vitro model, except that the first extracellular matrix is part of an animal model. The primary uses of the models are for screening substances for their effect on cell migration, and for screening extracellular matrices for their effect on cell migration.

23 Claims, 1 Drawing Sheet